

INTERFACE CIRCUIT FOR MULTIPLEXING MULTIPLE SERIAL DATA
STREAMS FROM UNSYNCHRONIZED CLOCK DOMAINS

ABSTRACT OF THE DISCLOSURE

5 A serial stream interface for combining a master serial data stream comprising a sequence of N-bit master data packets and a slave serial data stream comprising a sequence of N-bit slave data packets. The serial stream interface comprises: 1) a slave input interface comprising a slave buffer having a serial input for
10 receiving the slave serial data stream and an N-bit slave parallel output for outputting each of the N-bit slave data packets wherein the slave buffer stores each N-bit slave data packet using at least one slave timing signal associated with the slave serial data stream; 2) a source selection circuit having a first input channel
15 for receiving an N-bit master parallel output from a first master data source and a second input channel coupled to the N-bit slave parallel output; and 3) a serialization circuit having an input coupled to an output of the source selection circuit for receiving a selected one of the N-bit master parallel output and the N-bit
20 slave parallel output and a serial output, wherein the serialization circuit sequentially shifts out each bit of the selected one of the N-bit master parallel output and the N-bit slave parallel output.